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lab l*i*f*e: rethinking objects for everyday life

LAB L*I*F*E (2005-2008) WAS AN EXPERIMENTAL WORKSHOP FOR INDUSTRIAL DESIGN STUDENTS AT THE JAVIERIANA PONTIFICAL UNIVERSITY IN BOGOTÁ (COLOMBIA) WHICH EXPLORED THE CONCEPTION OF NEW OBJECTS FOR EVERYDAY LIFE, TAKING AS A POINT OF DEPARTURE TRANS-DISCIPLINARY APPROACHES TO THE PHENOMENON OF LIFE. THE PRESENT TEXT SETS OUT THE CHIEF REFLECTIONS OF THE WORKSHOP, ITS EXERCISES AND GENERAL METHODOLOGY, AND SOME OF THE PROJECTS DEVELOPED BY THE STUDENTS.

The subtle relationship between the material things we meet with in our experience and the energy field that underlies them in the depth of the universe also transforms our view of life.

Ervin László,
The Concept of Life

The relationship between human beings and nature can be described as a process in constant evolution. Some authors have attributed to Francis Bacon (1561-1626) the assumption that if necessary, in order to obtain a deep knowledge of nature, "we should torture her until we extract her innermost secrets." With the invention and development of machines and technology that gave way to the Industrial Revolution, these ideas of domination were complemented by the idea of exploitation. The whole planet began to be seen as a source for the supply of resources, which could be extracted ad nauseum for the exclusive benefit of mankind. These ideas, fuelled and preserved by capitalist economic

models, the development of consumer societies and the intensive increase in human population, have led the planet to dramatic ecological unbalance.

Over recent years, in contrast to these ideas of the control and exploitation of nature, a new awareness of our relationship to nature has begun to emerge. This new vision, expressed for instance by Gaia's hypothesis and systemic and holistic theories, interprets the planet as a living organism made up of a complex network of interactions and collaborations.[1] The ideas of control and exploitation need to begin to be replaced by those of interconnection, interdependence and collaboration. The natural is not external to human beings and human beings are not external to the natural. Observer and observed form a part of the same fabric. It is no longer a question of trying to understand nature to dominate and exploit her, but to manage to live in harmony with her. Similarly, these new visions have made it clear that the planet's resources are limited. Our 'spacecraft' carries a finite amount of resources and we should learn for ourselves how to administer them.

Rethinking our relationship with nature necessarily implies rethinking our relationship with the artificial, i.e., with the technologies we develop and with the objects and products that form a part of our everyday lives. The role, scope and responsibilities of industrial design are placed under observation and it becomes clear that these factors, and the products involved in their practice, must be rethought from a new perspective.

As is the case with nature, the relationship between human beings and technology is also a process in constant evolution. The 'essence' of technology is not, therefore, a static category but a process that changes over time.[2]

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1. Prosthesis for Endangered Trees Juan Mojica and Alberto Sánchez, first semester, 2006

1. These ideas are clearly expressed by Fritjof Capra in his books *The Web of Life. A New Scientific Understanding of Living Systems* (First Anchor Books, 1997) and *The Hidden Connections*: A Science for Sustainable Living (First Anchor Books, 2002).

2. *In High Techne: Art and Technology from the Machine Aesthetic to the Posthuman* (University of Minnesota Press, 1999), R. L. Rutsky reflects at length on the 'essence' of technology as described by Martin Heidegger.

The l*i*f*e lab sought to stimulate the development of new sensitivities to advance towards the conception and development of the artificial emphasising the natural. Unlike what could be expected, it was not an eco-design or sustainable design workshop. While these philosophies were a part of its reflections, the workshop did not stress the need to come up with solutions to specific problems but the need to promote the development of critical and reflective proposals based on agendas such as those offered by 'critical design' or 'design for debate'.

l*i*f*e lab explored new ways of approaching the conception of technological objects, taking the question for life as both a point of departure and a thread that enabled the weaving of connections between biological, technological and cultural visions.

Our biology has produced human technology which, in turn, has catapulted us much further than we assumed were our biological limits.

Lynn Margulis and Dorin Sagan, ***Microcosmos: Four Billion Years of Microbial Evolution*** **(1995)**

Each semester the workshop began with the same question: What is life? Taking this reflection as a starting point instead of a specific problem to be solved enabled students to set out on an open process of exploration that would gradually be circumscribed by the search for new relations and questions.

As each process advanced, students were motivated to confront different approaches to, and visions of, the phenomenon of life. Through the construction of conceptual maps, tools that at the same time served as binnacles marking the conceptual progress of the projects, biological, technological and cultural visions would be addressed, leading to concrete proposals for everyday life.

The workshop, like the projects developed by students, followed intuitive and experimental processes, the methodology of which evolved gradually. In general terms, special attention was paid to the cultural appropriation of electronic and digital technologies, analysing in depth those reflections derived from physical computing instead of emphasising immersive or screen technologies. In this way, instead of virtual developments what was privileged were reflections aimed at the construction of objects and artefacts. While the question that marked the onset of the reflections was always the same, i.e., What is life?, according to the interests and motivations of students, each project would explore different paths.

As a result of the adoption of reflexive and critical positions, some of the projects began to be qualified by the actual teachers of the workshops as 'artistic', and disqualified as 'design' projects, thus proving that the borders between design and art can indeed be very tenuous. Instead of trying to delimit territories, the workshop hoped to inspire reflections that would challenge the traditional boundaries of the practice of industrial design.

The Living and the Non-Living, the Natural and the Artificial

The gods have provided man with a mind and with hands, creating him in their own image, granting him authority over other animals, which doesn't only consist in enabling him to act normally according to nature but also outside of nature's laws, and therefore, forming or being able to form other natures, other courses, other orders inventively, freely [...] he should stand as god on Earth.

Rodolfo Mondolfo, ***Spaccio della bestia trionfante*** **(1927), quoted by Paolo Rossi in** ***I filosofi e le macchine 1400-1700*** **(1962).**

Artificial Order: The Birth of an Object?

The workshop proved that the question about the living and the non-living prompted reflections on the idea of the natural and the artificial, that established a direct connection with the role of design as creator and planner of the

artificial. But, what is the fundamental difference between the natural and the artificial?

For Ezio Manzini, the distinction between the natural and the artificial is related to a type of order. Human beings create orders that nature herself wouldn't create without their influence. Manzini exemplifies this clearly stating that when we are out in the country and see a line of trees we immediately know that they have been planted by a human being[3] (or perhaps by a machine invented by a human being). Nature doesn't arrange trees in a straight line, at least she doesn't seem to feel the need to do so. Trees are probably planted in rows to act as dividing lines, at once physical and symbolic limits, demarcating territories. According to this point of view, inventing objects is basically a question of introducing a new order into nature.

The Idea of the Unique Object

What we have just said suggests another distinction between the natural and the artificial, which is the idea of purpose. The order developed by nature reveals no intention, while the order imposed by human beings on nature does. If we now think of the products created by design, we discover that they all seem to have an intention. In parallel, if we look at the world of art we shall see that it seems to be free of these ties. Art creates objects with no apparent purpose, which consequently leads us to think that the products of art, unlike the products of design, lie closer to nature, at least from the point of view of the motivations behind their genesis.

The challenge, therefore, for design is to act as art, i.e., as nature. To ensure that the new orders it creates, that is to say its objects and products, emerge as anextension of the work of nature. This, however, also immediately enters into conflict with the idea of industrial reproducibility. Art, which acts spontaneously and aimlessly, like nature, produces as a result unique objects, while industrial design does not only imply the idea of functional objects but the notion of mass reproduction. Is this an insoluble conflict? Should design therefore revise once again the romantic ideals that excited William Morris? Should we seek a way of recovering the role of craftsmen and unique objects in the context of a planet in crisis?

Technology as Art

In *I filosofi e le macchine* Paolo Rossi states that nature acts through the hand of the artist, quoting Descartes and Bacon, for whom "the products of art and those of nature do not, in principle, present any difference whatsoever."[4]

This idea therefore leads us to reflect that if the work of nature is extended through the hands of the artist, the creation of technologies (i.e., the creation of the artificial) would imply the extension of the work of nature. The difference between the natural and the artificial would be meaningless. Nature is extended by technology; nature becomes technology.

Technology is different to the 'essence' of technology, as observed by Heidegger. For the Greeks, the word *techne* designated, at the same time, technical know-how or craftsmanship as well as high art. To quote Heidegger, *techne* is "the name not only for the activities and skills of the craftsman but also for the arts of the mind and the fine arts [...] It is as revealing, and not as manufacturing, that *techne* is a bringing-forth [...] Technology comes to presence in the realm where revealing and unconcealment take place, where aletheia, truth, happens."[5] According to this point of view, we could think that the production of new technologies, the production of the artificial, bears a closer relation to the process of artistic creation than to the instrumental idea understood today. To begin to see technology as art and as poetry implies broadening its present meaning to rescue its 'essence', which defines it as *techne*.

Perhaps the reconciliation of the industrial reproduction of design and nature lies in recovering the 'essence' of the

3. MANZINI, Ezio. *Artefatti. Verso una nuova ecologia dell'ambiente artificiale* (Artefacts, Towards a New Ecology of the Artificial Environment), Edizioni Domus Academy, 1990 (published in French and Spanish).

4. ROSSI, Paolo. *I filosofi e le macchine* 1400-1700 (Feltrinelli, 1962). English version, translated by Salvatore Attanasio, *Philosophy, Technology and the Arts in the Early Modern Era* (Harper & Row, New York, 1970).

concept of technology as art, of technology as poetry and therefore of technology as an extension of nature.

Everyday Life

Nature transformed into an object is introduced into everyday life, where it begins to form a part of a complex network of relations that configure the totality of human culture. Technological objects begin to affect, and be affected by, the social framework in which they are inserted.

The phenomenon of the otaku generation in Japan exemplifies the complex relations set up by technological objects. For this generation, the distinction between animate and inanimate things is blurred. These youths, who grew up with video-game consoles, tamagotchis and personal computers, seem to feel more at ease among machines than among humans. Some of them even tend towards a form of 'inanimism', in other words, they see their pets as mechanical toys, "when they become boring they are abandoned, just as a toy would be."[6]

In Shintoism, a Japanese religion, all objects, whether natural or artificial, are blessed with a spirit or kami. Along similar lines, if we analyse philosophical conceptions such as hylozoism, a doctrine introduced by Ionic philosophers (seventh to sixth centuries BC), all of reality, even inert reality, is endowed with sensitivity and therefore animated by an active principle. The whole universe is seen as a living being and consequently, as in Shintoism, all matter is blessed with life. These reflections, that verge on systemic approaches or the Gaia hypothesis, may yield a new perspective for considering material culture precisely where the dividing line between the natural and the artificial, between the living and the non-living becomes blurred.

Supported by the approaches offered by critical design,[7] students were motivated to see everyday objects as possible vehicles for introducing questions and thoughts into cultural contexts. More than mere functional artefacts, everyday objects were conceived as possible channels for transformation and change and as means to generate reflection and debate.

Where Do Objects End and People Begin?

All objects act as prostheses, extending, replacing, magnifying the body and its emotions. Objects are much more than their material dimension; objects are intercepted with their owners until dissolving into them. Michel Serres presents the terms of quasi-objects and quasi-subjects alluding to our mutual co-evolution with things.[8]

The project entitled Sensitive Objects (2006) explored how objects from everyday life could serve as emotional prostheses for a couple, expanding the feelings outside of the bodily limit and materialising them physically.[9]

Pets, like objects, act as prostheses, extending their owners outside their bodily limits. For Baudrillard, the object is the most beautiful of pets, "the perfect pet", and pets are a sort of intermediaries between beings and objects."[10]

The Random Hamster (2007) project posed the extension of the pet as a player in a family game of cards.[11] While the project entitled Electrical Appliance for an Hour (2007) explored the transformation of the subject in the technological object.[12]

5. HEIDEGGER, Martin. "The Question Concerning Technology," in Martin Heidegger: *Basic Writings*, edited by David Farrell Krell and translated by William Lovitt (Harper & Row, New York, 1977).

6. *Otaku: Japanese Kids colonize the Realm of Information and Media, Volker Grassmuck:* http://www.mediamatic.net/page/11784/en (Consulted 6 September 2009).

7. Critical design is suggested by Anthony Dunne and Fiona Raby, lecturers at the Royal College of Art, in their books *Design Noir: The Secret Life of Electronic Objects* (Dunne and Raby, 2001) and *Hertzian Tales: Electronic Products, Aesthetic Experience and Critical Design* (Dunne, 1999).

8. SERRES, Michel. *The Parasite* (Johns Hopkins University Press, Baltimore, 1982).

9. http://www.thepopshop.org/Vidalab/I%20sem%202006/projects/objetoss/index.hml (Consulted on 6 September 2009).

The Life and Death of Things

Where do things go when they die?

The life of objects is intrinsically linked to their use and circulation. When an object begins to be used it acquires another meaning. The object is symbolised, fetishised, 'totemised'. The object acquires a new practical value, different to its value as merchandise.

When it loses its function, the object begins to reveal new considerations. The object devoid of a function evinces its materiality, its intrinsic value. As a result, having lost its functionality the object is not sentenced to death. It can acquire a new life in the hands of collectors: "[T]he pure object, devoid of a function or withdrawn from its use, assumes a strictly subjective status. It becomes a collector's object," says Baudrillard.[13]

But not all objects are worthy of being collected. And the truly disposable object, the object whose obsolescence has been planned since its manufacture,[14] is an imminent ecological danger, particularly if it be a technological object.

The project entitled Sacred: Rituals of Passage from Life to Death for Electronic Objects reflected upon the possibility of generating new rites of passage for technological objects. During the rite, users have sufficient time to say goodbye to their deceased objects while preparing their reports, facilitating the process of degradation.[15]

Workshops and Projects

Laboratory Practices

The development of trans-disciplinary collaborations with other university departments was fundamental for the workshop. In particular, the support received from the biology department enabled design students to carry out practices in their laboratories. Such collaborations sought to motivate students to think outside of the traditional limits of their profession, and inspired collaborations that would remain even when the workshop was finished.

One of the main referents studied, from the biological point of view, were the contributions by American biologist Lynn Margulis. Margulis sustains a new evolutionary paradigm based not on the survival of the strongest, as Darwin's theory asserts, but on collaborative processes between species (symbiognesis). Around a kilogram of bacteria exist in the human body, organisms with which we have developed an intimate symbiotic process and on which we depend for our survival. Even, as Murgulis suggests in some of the chapters of her theory of symbiotic evolution,[16] before undergoing the evolutionary processes that encapsulate them in our skull, neurons were small free bacterial organisms called spiroquets.

During their laboratory practices, students learnt basic techniques for the observation of their own bacteria, such as Gram tinction, and observation processes of other microorganisms such as protists, strange organisms that are present in great quantities in the water in vases. As a result of their peculiar characteristics protists have resisted traditional scientific categories and have been classified as a new kingdom, separate from the animal, plant of fungi kingdoms.

Observing bacteria and evincing their symbiotic relationship with other systems and organisms, including human beings, sought to offer a new referential model from which meta-

10. BAUDRILLARD, Jean, "The Finest of Domestic Animals", in *The System of Objects* (Verso, London and New York, 1996, pp. 95-97).

11. http://www.thepopshop.org/vida/projects/2007_2/index.html#hamster (Consulted on 6 September 2009).

12. http://www.thepopshop.org/vida/projects/2007_1/index.html#electrodomestico (Consulted on 6 September 2009).

13. BAUDRILLARD, Jean. Op. cit.

14. The expression planned obsolescence was introduced in the twenties and thirties when mass production had exposed all aspects of the production process to rigorous analysis:. http://en.wikipedia.org/wiki/Planned_obsolescence_%28business%29 (Consulted on 6 September 2009).

15. http://www.thepopshop.org/vida/projects/2006_2/index.html#sacro (Consulted on 6 September 2009).

16. MARGULIS, Lynn. *The Symbiotic Planet: A New Look at Evolution,* Basic Books, New York, 1998.

phors and inspiration could be derived. Bacteria represent a collaborative planetary model, refined over millions of years of evolution.

Electronics and Physical Computing Workshops in Natural Environments

From the first few days, students began to familiarise themselves with basic notions of electronics and physical computing, experimenting with the use and programming of micro-controllers. Contact with these technologies, which are compared to the considerations offered by the laboratory practices, sought to stimulate the creation of links and parallels between biological/organic visions and electronic/digital visions, which eventually prompted a debate on the limits between the living and the non-living, the natural and the artificial.

Picnic Labs

In order to take these reflections outside the classrooms and bring them into direct contact with the natural environment, alternative learning and exploration exercises with electronic and digital components were carried out. The Picnic Labs[17] were spontaneous encounters between nature and artifice during which students were invited to observe technology as manipulated nature, revealing the tensions generated by superimposing human technology, micro-controllers and electronic toys, for instance, on the natural environment.

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2. lab l*i*f*e students in the biology laboratory, 2007 and 2008

17. Picnic labs: http://www.thepopshop.org/vida/picniclabs/index.html (Consulted on 6 September 2009).

Projects

The following were some of the projects developed by the workshop students[18]

- Prosthesis for Endangered Trees (2006)
-Sensitive Objects (2006)
-Sacred: Rituals of Passage from Life to Death for Electronic Objects (2006)
-VLF Coffee Pot (2007)
-Pitcher (2007)
-Electrical Appliance for an Hour (2007)

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3. Picnic Lab. Simón Bolivar Park, Bogotá
lab l*i*f*e, first semester 2006

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4. Picnic Lab. Suesca, Cundinamarca
lab l*i*f*e, second semester 2006

Prosthesis for Endangered Trees (2006)

Juan Mojica, Alberto Sánchez

Prosthesis for Endangered Trees was a public intervention project that hoped to draw citizens' attention to the high air pollution levels in Bogotá. The system was implemented in a tree situated close to a congested avenue of the city, making it shake its own branches and water itself, helping it to get rid of the dust and soot deposited on its leaves.

Other images and video at http://www.thepopshop.org/Vidalab/I%20sem%202006/projects/protesis/index.html

Sensitive Objects (2006)

Camila Abadía, Laura Rodríguez

What would happen if everyday objects began to reveal our emotions? And what would happen if this could occur at a great distance and in the spaces we share with our loved ones? The *Sensitive Objects* project presents objects as emotional prostheses that extend our feelings beyond our bodily limits, managing to make them appear when we are far removed from them.

The project raises the issue of the expansion of human communication linking spaces and the objects they contain as direct participants in interpersonal relationships. A picture that suddenly turns around, showing us its back or a plant that begins to move in search of dark space may be indicative of the fact that our partner—who is away on a trip—is angry or no longer wishes to see us.

18. To consult other projects lease visit the workshop site: http://www.thepopshop.org/vida/ (Consulted on 6 September 2009).

By remaining in spaces made up of sensitive objects we may perceive the emotional changes experienced by our loved ones (the picture going back to its original position, the plant moving to a sunny spot), warning us when they have a problem or making us feel excited when they are thinking of us.

http://www.thepopshop.org/vida/projects/2006_2/index.html#sacro

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5. Picnic lab. Simón Bolívar Park, Bogotá
l*i*v*e lab, first semester 2006

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6. Picnic lab. Simón Bolívar Parl, Bogotá
l*i*v*e lab, first semester 2006

Sacro: Rituals of Passage from Life to Death for Electronic Objects (2006)

Laura Flechas

Sacro explored the development of new rites of passage from life to death for electronic objects. During the rite, users have enough time at their disposal to say goodbye to their deceased objects, while preparing their components to facilitate the process of degradation.

http://www.thepopshop.org/vida/projects/2006_2/index.html#sacro

VLF Coffee Pot (2007)

Andrés Vargas

The Earth is continuously emitting radiation that we are unable to hear without the appropriate means. These Very Low Frequency Natural Radio emissions are electromagnetic emissions produced by events such as lightning bolts or northern lights, influenced by solar activity in the magnetic field surrounding the Earth (the magnetosphere). These emissions reflect the planet's ongoing activity and refer back to the idea of a living planet continuously active.

The project poses the idea of linking the activity carried out in the Earth's magnetosphere to people's daily activities. In particular, it considers the possible effects of adapting a VLF wave receiver to an ordinary coffee pot, showing the effect of Songs of the Earth on the water used to make a cup of coffee.

http://www.thepopshop.org/vida/projects/2007_2/index.html#cafetera

Pitcher (2007)

Camila Currea

A number of studies suggest the high sensitivity of plants, especially of their emotional relationship with music. *Pitcher* consists of a flowerpot that produces music according to the environmental conditions of the plant, enabling domestic experimentation of the effects of music on its growth. Given that different plants can have their own musical tastes, continuous experimentation and observation are required, thereby strengthening the ties with the plants.

http://www.thepopshop.org/vida/projects/2007_2/index.html#cantaro

Electrical Appliance for an Hour (2007)

David Segura

Confined inside a box from where only his head and parts of his arms emerge, David performed tasks such as answering the phone and leaving messages, blending fruit in a liquidiser and using a sandwich toaster, following his sister's orders for an hour.

http://www.thepopshop.org/vida/projects/2007_1/index.html#electrodomestico

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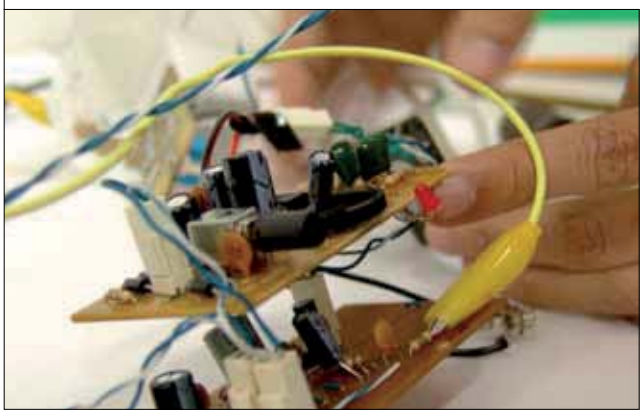

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7. Sacro. Laura Flechas (2006)
8. VLF Coffee Pot. Andrés Vargas (2007)
9. Electrical Appliance for an Hour. David Segura (2007)
10. VLF Coffee Pot. Andrés Vargas (2007)
11. Pitcher. Camila Currea (2007)